



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/536,798	05/27/2005	Toru Sano	Q88016	4489
23373	7590	10/29/2007		
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			EXAMINER THERKORN, ERNEST G	
			ART UNIT 1797	PAPER NUMBER
			MAIL DATE 10/29/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/536,798	Applicant(s) SANO ET AL.	
	Examiner Ernest G. Therkorn	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) 7-9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 2 are rejected under 35 U.S.C. 102(B and/or E) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over each of Christel (WO/99/09042), Hansmann (U.S. Patent No. 5,952,173), and Moon (U.S. Patent Publication No. 2002/0123153). The claims are considered to read on each of Christel (WO/99/09042), Hansmann (U.S. Patent No. 5,952,173), and Moon (U.S. Patent Publication No. 2002/0123153). However, if a difference exists between the claims and each of Christel (WO/99/09042), Hansmann (U.S. Patent No. 5,952,173), and Moon (U.S. Patent Publication No. 2002/0123153), it would reside in optimizing the elements of each of Christel (WO/99/09042), Hansmann (U.S. Patent No. 5,952,173), and Moon (U.S. Patent Publication No. 2002/0123153). It would have been obvious to optimize

the elements of each of Christel (WO/99/09042), Hansmann (U.S. Patent No. 5,952,173), and Moon (U.S. Patent Publication No. 2002/0123153) to enhance separation.

Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over each of Christel (WO/99/09042), Hansmann (U.S. Patent No. 5,952,173), and Moon (U.S. Patent Publication No. 2002/0123153) in view of Nagaoka (WO/02/23180). At best, the claims differ from each of Christel (WO/99/09042), Hansmann (U.S. Patent No. 5,952,173), and Moon (U.S. Patent Publication No. 2002/0123153) in reciting use of electrodes. Nagaoka (WO/02/23180) (Abstract) discloses that use of electrodes allows coupling of the specific component to a projection. It would have been obvious to use electrodes in each of Christel (WO/99/09042), Hansmann (U.S. Patent No. 5,952,173), and Moon (U.S. Patent Publication No. 2002/0123153) because Nagaoka (WO/02/23180) (Abstract) discloses that use of electrodes allows coupling of the specific component to a projection.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over each of Christel (WO/99/09042), Hansmann (U.S. Patent No. 5,952,173), and Moon (U.S. Patent Publication No. 2002/0123153) in view of either Anderson (U.S. Patent No. 6,289,286) or Malmqvist (U.S. Patent No. 6,503,760). At best, the claim differs from each of Christel (WO/99/09042), Hansmann (U.S. Patent No. 5,952,173), and Moon (U.S. Patent Publication No. 2002/0123153) in reciting use of an antigen-antibody combination. Anderson (U.S. Patent No. 6,289,286) (column 1, lines 18-34 and column 23, line 7) and Malmqvist (U.S. Patent No. 6,503,760) (column 1, lines 19-34. column 6,

Art Unit: 1797

line 60) disclose antibody-antigen interaction with a surface bound ligand are of fundamental importance in many fields and are used in microfluidic analytical instruments. It would have been obvious to use an antigen-antibody combination in each of Christel (WO/99/09042), Hansmann (U.S. Patent No. 5,952,173), and Moon (U.S. Patent Publication No. 2002/0123153) in view of either Anderson (U.S. Patent No. 6,289,286) or Malmqvist (U.S. Patent No. 6,503,760) because Anderson (U.S. Patent No. 6,289,286) (column 1, lines 18-34 and column 23, line 7) and Malmqvist (U.S. Patent No. 6,503,760) (column 1, lines 19-34, column 6, line 60) disclose antibody-antigen interaction with a surface bound ligand are of fundamental importance in many fields and are used in microfluidic analytical instruments.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over each of Christel (WO/99/09042), Hansmann (U.S. Patent No. 5,952,173), and Moon (U.S. Patent Publication No. 2002/0123153) in view of Biebricher (U.S. Patent No. 4,177,038). At best, the claim differs from each of Christel (WO/99/09042), Hansmann (U.S. Patent No. 5,952,173), and Moon (U.S. Patent Publication No. 2002/0123153) in reciting use of a spacer. Biebricher (U.S. Patent No. 4,177,038) (column 1, lines 34-40) discloses use of a spacer increases the distance between the vehicle and the bonding material to counteract steric interference. It would have been obvious to use a spacer in each of Christel (WO/99/09042), Hansmann (U.S. Patent No. 5,952,173), and Moon (U.S. Patent Publication No. 2002/0123153) because Biebricher (U.S. Patent No. 4,177,038) (column 1, lines 34-40) discloses use of a spacer increases the distance between the vehicle and the bonding material to counteract steric interference.

Claims 1-4 are rejected under 35 U.S.C. 102(B and/or E) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Nagaoka (WO/02/23180). The claims are considered to read on Nagaoka (WO/02/23180). However, if a difference exists between the claims and Nagaoka (WO/02/23180), it would reside in optimizing the elements of Nagaoka (WO/02/23180). It would have been obvious to optimize the elements of Nagaoka (WO/02/23180) to enhance separation.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nagaoka (WO/02/23180) in view of either Anderson (U.S. Patent No. 6,289,286) or Malmqvist (U.S. Patent No. 6,503,760). At best, the claim differs from Nagaoka (WO/02/23180) in reciting use of an antigen-antibody combination. Anderson (U.S. Patent No. 6,289,286) (column 1, lines 18-34 and column 23, line 7) and Malmqvist (U.S. Patent No. 6,503,760) (column 1, lines 19-34. column 6, line 60) disclose antibody-antigen interaction with a surface bound ligand are of fundamental importance in many fields and are used in microfluidic analytical instruments. It would have been obvious to use an antigen-antibody combination in Nagaoka (WO/02/23180) because Anderson (U.S. Patent No. 6,289,286) (column 1, lines 18-34 and column 23, line 7) and Malmqvist (U.S. Patent No. 6,503,760) (column 1, lines 19-34. column 6, line 60) disclose antibody-antigen interaction with a surface bound ligand are of fundamental importance in many fields and are used in microfluidic analytical instruments.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nagaoka (WO/02/23180) in view of either Anderson (U.S. Patent No. 6,289,286) or Malmqvist (U.S. Patent No. 6,503,760) as applied to claim 5 above, and further in view of

Art Unit: 1797

Biebricher (U.S. Patent No. 4,177,038). At best, the claim differs from Nagaoka (WO/02/23180) in view of either Anderson (U.S. Patent No. 6,289,286) or Malmqvist (U.S. Patent No. 6,503,760) in reciting use of a spacer. Biebricher (U.S. Patent No. 4,177,038) (column 1, lines 34-40) discloses use of a spacer increases the distance between the vehicle and the bonding material to counteract steric interference. It would have been obvious to use a spacer in Nagaoka (WO/02/23180) in view of either Anderson (U.S. Patent No. 6,289,286) or Malmqvist (U.S. Patent No. 6,503,760) because Biebricher (U.S. Patent No. 4,177,038) (column 1, lines 34-40) discloses use of a spacer increases the distance between the vehicle and the bonding material to counteract steric interference.

The restriction requirement has been reconsidered, deemed proper, and made final for the reasons of record.

Any inquiry concerning this communication should be directed to E. Therkorn at telephone number (571) 272-1149. The official fax number is 571-273-8300.

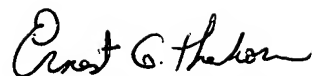
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic

Application/Control Number: 10/536,798

Page 7

Art Unit: 1797

Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Ernest G. Therkorn".

Ernest G. Therkorn
Primary Examiner
Art Unit 1797

EGT
October 25, 2007